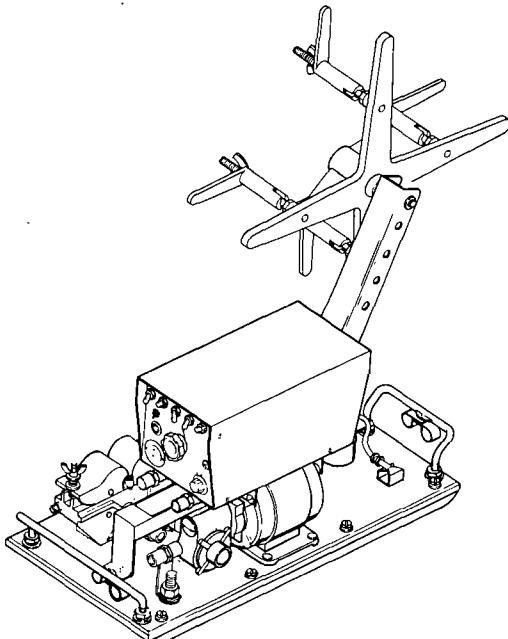


Effective With Serial No. HF843540

**MILLERMATIC 30B
CONTROL/FEEDER**

.030 Wire V-Groove	057 130
.035 Wire V-Groove	057 131
.045 Wire V-Groove	057 132
1/16 Wire V-Groove	057 133
.045 Wire U-Groove	057 134
1/16 Wire U-Groove	057 135
5/64 Wire U-Groove	057 136
3/32 Wire U-Groove	057 137
7/64 Wire U-Groove	057 138
1/8 Wire U-Groove	057 139
1/16 Wire V-Knurled	057 140
5/64 Wire V-Knurled	057 141
3/32 Wire V-Knurled	057 142
7/64 Wire V-Knurled	057 143
1/8 Wire V-Knurled	057 144



MODEL/STOCK NO.	SERIAL/STYLE NO.	DATE PURCHASED
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OWNER'S MANUAL



**MILLER ELECTRIC MFG. CO.
APPLETON, WISCONSIN, USA 54911**

ADDITIONAL COPY
PRICE 70 CENTS

NWSA CODE NO. 4579

PRINTED
IN
U.S.A.

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EFFECTIVE: NOVEMBER 1, 1976

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2. Original main power rectifiers 3 years
(Labor — 1 year only)
3. All welding guns and feeder/guns 90 days
4. All other Millermatic Feeders 1 year
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5. Replacement or repair parts exclusive of labor .. 60 days

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ERRATA SHEET

-After this manual was printed, refinements in equipment design occurred. This sheet lists exceptions to data appearing later in this manual.

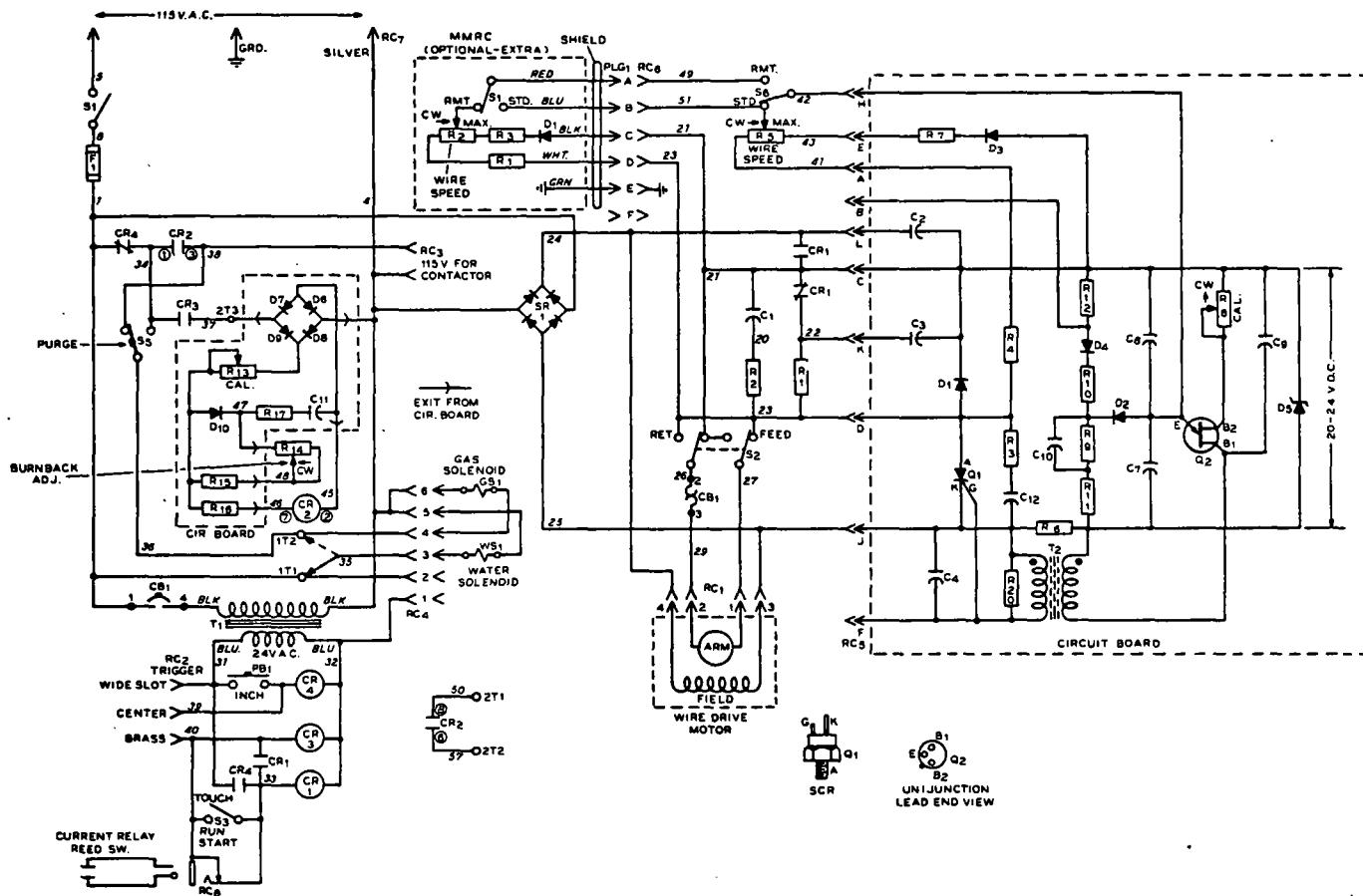
Effective With Serial No. HJ171707

NOTE

Delete all references to Fuse F2 in this manual as it has been removed from the unit.

AMENDMENT TO SECTION 6 – TROUBLESHOOTING

Amend Figure 6-1 as follows:



Circuit Diagram No. CB-056 635-1D

Item No.	Dia. Mkgs.	Part No. Listed In Parts List	Replaced With Part No.	Description	Quantity
11		602 249	Deleted		
26		604 475	601 956	SCREW, cap - steel hex hd 1/4-20 x 1-1/4	8
81	S1,3	011 233	011 233	SWITCH, toggle SPDT 10 amp 125 volts ac (quantity change)	2
84		012 617	012 617	HOLDER, fuse - miniature 1/4 x 1/4 (quantity change)	1
88	F1	012 655	012 655	FUSE, miniature - glass 10 amp (quantity change)	1
107	S1	011 020	Deleted		
108		056 720	053 881	CHASSIS	1

BE SURE TO PROVIDE STOCK, MODEL, AND SERIAL NUMBERS WHEN ORDERING REPLACEMENT PARTS.

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SECTION 1 - INTRODUCTION

Electrode Wire Dia. Capability	Electrode Wire Feed Speed	Control Circuit Voltage At Gun	Overall Dimensions (Inches)	Weight (Pounds)	
				Net	Ship
.030" - 1/8"	20 to 900 ipm.	24 Volts	Height - 24-1/2 Width - 14-5/8 Depth - 34-1/4	68	73

Figure 1-1. Specifications

1 - 1. GENERAL

This manual has been prepared especially for use in familiarizing personnel with the design, installation, operation, maintenance, and troubleshooting of this equipment. All information presented herein should be given careful consideration to assure optimum performance of this equipment.

1 - 2. RECEIVING-HANDING

Prior to installing this equipment, clean all packing material from around the unit and carefully inspect for any damage that may have occurred during shipment. Any claims for loss or damage that may have occurred in transit must be filed by the purchaser with the carrier. A copy of the bill of lading and freight bill will be furnished by the carrier on request if occasion to file claim arises.

When requesting information concerning this equipment, it is essential that Model Description and/or Stock Number and Serial (or Style) Numbers of the equipment be supplied.

1 - 3. DESCRIPTION

This control/feeder is of the constant wire feed speed type and is designed to be used in conjunction with a constant potential welding power source.

The control/feeder is a heavy duty wire feeding unit combining both the wire feeder and the control in a compact assembly. It contains all the controls and equipment needed to supply welding wire and shielding gas to the welding gun.

This unit is equipped with a Burnback Control. This control provides a means of keeping the welding wire from sticking to the workpiece or the contact tube after the gun switch is released. The control is adjustable from 0-15 cycles.

1 - 4. SAFETY

The following definitions apply to CAUTION, IMPORTANT, and NOTE blocks found throughout this manual:

CAUTION

Under this heading, installation, operating, and maintenance procedures or practices will be found that if not carefully followed may create a hazard to personnel.

IMPORTANT

Under this heading, installation, operating, and maintenance procedures or practices will be found that if not carefully followed may result in damage to equipment.

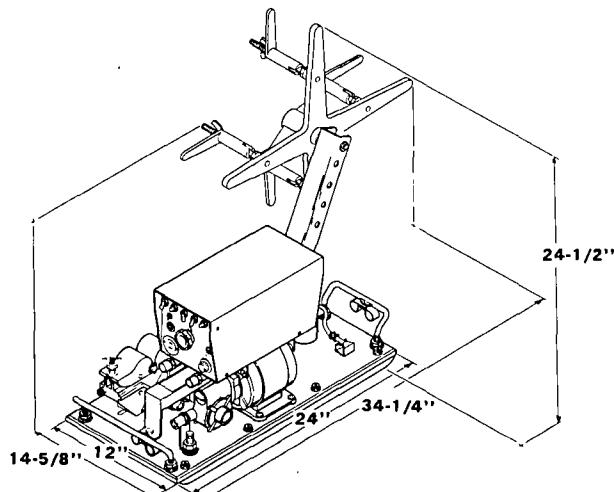
NOTE

Under this heading, explanatory statements will be found that need special emphasis to obtain the most efficient operation of the equipment.

SECTION 2 - INSTALLATION

2 - 1. LOCATION

Refer to Figure 2-1 for dimensional information on the control/feeder. Lead lengths must be considered when installing the control/feeder. If the welding power source can be located near the work area, the control/feeder can usually be installed on top of the welding power source. Suitable space should be allowed for making necessary connections.



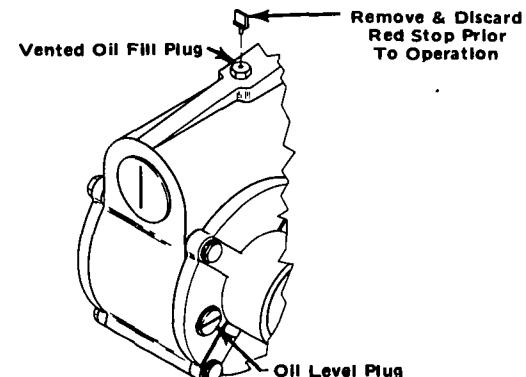
AC-056 635-2A

Figure 2-1. Control/Feeder Dimensions

2 - 2. DRIVE MOTOR (Figure 2-2)

The red stop, which is inserted into the hole in the vented oil fill plug, must be removed prior to operation of the control/feeder. See Figure 2-2 for the location of the red stop.

The oil level should be checked before the unit is put into operation and periodically thereafter. To check oil level in the gear housing, remove the oil level plug in the gear housing. Add SAE No. 90 oil, if necessary, until oil runs out the oil level hole.



AA-056 132-9

Figure 2-2. Vented Oil Plug And Oil Level Plug

2 - 3. SHIELDING GAS CONNECTIONS (Figure 2-4)

Determine the distance the control/feeder is to be located from the shielding gas supply, and connect a hose from the regulator-flowmeter on the gas supply to the gas fitting on the rear of the control/feeder. This connection has a right-hand thread.

The shielding gas hose which comes from the gun is to be attached to the gas connector on the front panel of the control/feeder. This connector has a right-hand thread.

2 - 4. WATER CONNECTIONS (Figure 3-1)

When a water-cooled gun is used, connect a hose from the water supply to the WATER IN fitting on the rear of the control/feeder. This fitting has a left-hand thread. See the gun Instruction Manual for gun to control/feeder connections. Connect a hose to the current and water connection, and route the return water where desired.

2 - 5. 115 VOLTS AC CONNECTIONS (Figures 2-3 & 2-4)

Since the control/feeder requires 115 volts ac to function, it is necessary to make up a power cable (16/3 is recommended) of the desired length with suitable plugs on each end (plug to control/feeder supplied; see Figure 2-3). After attaching the plugs, connect the power cable to the control/feeder (rear panel; insert, and rotate clockwise), and connect the remaining end to a 115 volts ac, 60 Hertz power supply.

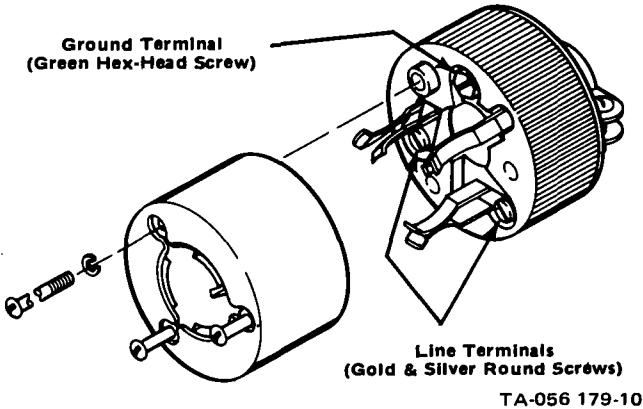


Figure 2-3. 115 Volts AC Plug Installation

2 - 6. CONTACTOR CONTROL CONNECTIONS (Figure 2-4)

It is necessary to make up a contactor control cable (16/2 is recommended) of the desired length with suitable plugs on each end (plug to control/feeder supplied). After attaching the plugs, connect the cable to the control/feeder (rear panel; insert, and rotate clockwise), and connect the remaining end to the contactor control connection point on the welding power source.

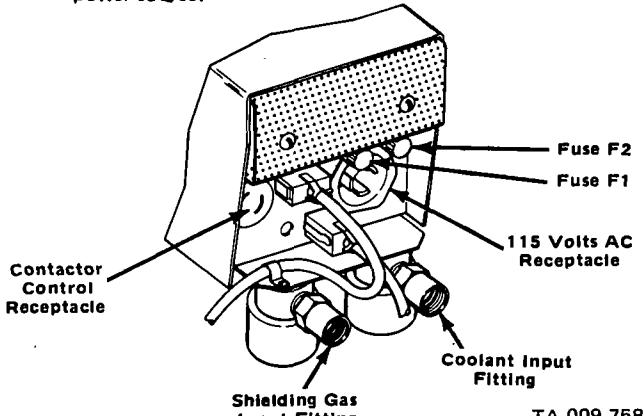


Figure 2-4. Rear Panel Connections

2 - 7. SWITCH CONTROL CONNECTIONS (Figure 3-1)

A two-pole, twistlock receptacle is provided on the front panel of the control/feeder for making switch control

connections. When the switch connected across this receptacle is closed, the contactor in the welding power source will energize, shielding gas will flow, and wire will begin to feed.

2 - 8. WELD CABLE TERMINAL (Figure 2-5)

A terminal is provided on the base of the control/feeder to serve as a junction point for joining together the weld cables from the welding power source and the gun. Ensure that the weld cable is properly routed through the reed switch and connected to the weld cable terminal.

IMPORTANT

Ensure that the weld cable terminal is kept clean at all times. Also ensure that the nut on this terminal is secure. If either one of the above conditions is not met, erratic weld current may result.

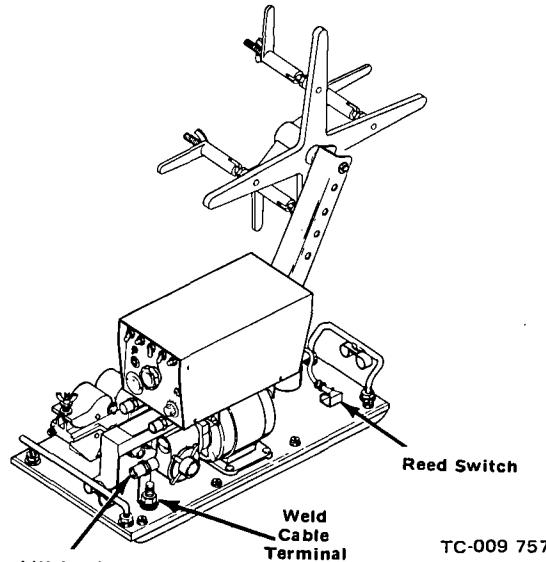


Figure 2-5. Power Source Connection

2 - 9. SPEED CHANGE GEARS (see Parts List)

By varying the combinations of the supplied steel and fiber speed change gears, the minimum to maximum wire feed speed range of the control/feeder can be attained. The control/feeder is shipped with the 30 tooth fiber gear attached to the motor drive shaft and the 24 tooth steel gear attached to the drive assembly thereby supplying a wire feed speed range of from 50 to 500 ipm. Table 2-1 shows the various gear combinations available, and the wire feed speed ranges that these gear combinations will yield.

CAUTION

Do not use two steel gears together as this will cause weld current to be present on the motor and control assembly. Also, two fiber gears should not be used together as two fiber gears will wear rapidly.

Table 2-1. Gear Combinations For Various Wire Feed Speed Ranges

Motor Gear No. of Teeth	Drive Gear No. of Teeth	Min. Wire Speed Control Setting	Max. Wire Speed Control Setting
15 Steel	30 Fiber	20 ipm	225 ipm
15 Steel	24 Fiber	24 ipm	280 ipm
24 Steel	30 Fiber	35 ipm	370 ipm
24 Fiber	24 Steel	45 ipm	450 ipm
30 Fiber	24 Steel	50 ipm	550 ipm
24 Fiber	15 Steel	70 ipm	745 ipm
30 Fiber	15 Steel	90 ipm	900 ipm

To change the speed change gears, proceed as follows:

1. Remove the cover which is over the speed change gears.
2. Loosen the two bolts which secure the drive assembly to the base, and slide the drive assembly out (away from the motor).
3. Using a 1/8 inch allen wrench, loosen the set screw in the gear on the drive assembly, and remove the gear.
4. Loosen the set screw in the gear on the motor drive shaft, and remove the gear.
5. Slide the desired gear onto the drive assembly, and tighten the set screw in the gear.
6. Slide the desired gear onto the motor drive shaft, and tighten the set screw in the gear.

IMPORTANT

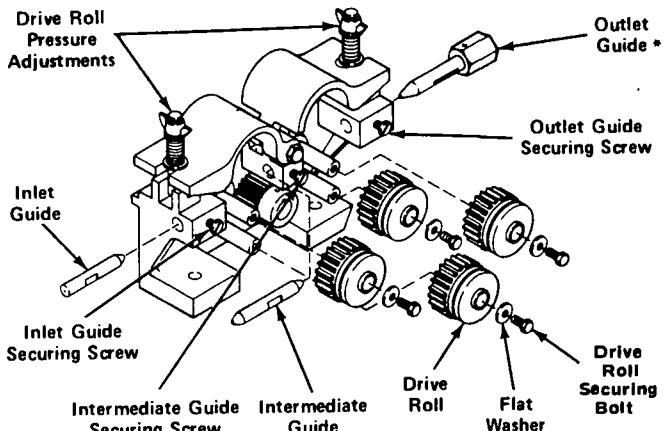
The control/feeders uses a fiber and a steel gear in the drive train between the drive motor and the wire drive rolls. Proper clearance between the fiber and steel gear is important. The proper clearance is .007 inch. This is approximately the same thickness as two sheets of standard writing paper. The easiest way to obtain the proper alignment is to be sure that the motor is fastened securely to the base plate. Then insert a piece of .007 thick paper (or two thicknesses of standard writing paper) between the fiber and steel gear, check the alignment of the gears (the two gears must be running in a straight line), and then tighten down the drive roll assembly. If this proper clearance is not maintained in the gears, they may wear severely, bind, cause erratic wire feed, or break.

7. Install the cover over the speed change gears.

2-10. WIRE GUIDE & DRIVE ROLL INSTALLATION (Figure 2-6 & 2-7)

Upon initial installation, or as a result of wire size changes, it is necessary to install the required drive rolls and wire guides to accommodate the particular wire size. Having selected the desired wire size and related parts, proceed as follows:

A. One-Piece Drive Roll (Figure 2-6)



TB-056 276-A

Figure 2-6. One-Piece Drive Roll Assembly

1. Loosen the pressure adjustment wing nuts, and pivot the pressure adjustments downward.
2. Remove the four drive roll securing bolts and associated washers from the drive shafts, and pull off the drive rolls.
3. Loosen the inlet, intermediate, and outlet guide securing screws, and remove the guides.

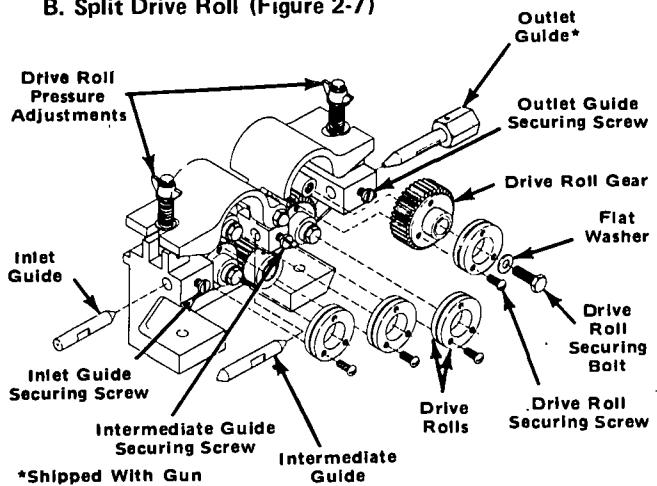
4. Install the desired size wire guides, and temporarily tighten securing screws.

NOTE

To prevent the three wire guides from slipping, ensure that the flat side of the wire guide is facing the securing screw.

5. Slide the desired size drive rolls (gear side first) onto the drive shafts.
6. Secure the drive rolls in place by installing the washers and bolts which were removed in Step 2.
7. Align all three wire guides so that the ends of the guides are 1/16 inch away from the drive rolls. Tighten securing screws.
8. Ensure that the teeth of the upper drive rolls mesh with the teeth of the lower drive rolls, and pivot the pressure adjustments upward until the washer on the pressure adjustments is seated on top of the drive roll cover. Tighten the pressure adjustment wing nuts just enough to hold the pressure adjustment assemblies in place.

B. Split Drive Roll (Figure 2-7)



TA-057 735-1

Figure 2-7. Split Drive Roll Assembly

1. Loosen the pressure adjustment wing nuts, and pivot the pressure adjustments downward.
2. If converting from a one-piece drive roll to a split drive roll, it will be necessary to remove the four drive roll securing bolts and associated washers. If converting a split drive roll arrangement from one wire size to another wire size requiring split drive rolls, proceed to Step 4.
3. Remove the one-piece drive rolls from the drive assembly.
4. Remove the three drive roll securing screws in each of the four gear/drive rolls, and remove the drive rolls.
5. Loosen the inlet, intermediate, and outlet guide securing screws, and slide out all three wire guides.
6. Install the desired size wire guides, and temporarily tighten the securing screws.

NOTE

To prevent the wire guides from slipping, ensure that the flat side of the wire guide is facing the securing screw.

7. After selecting the desired split drive rolls, align the holes in the split drive rolls with the holes in the gears, and install the three drive roll securing screws in each of the four gears. (If converting from a one-piece drive roll to a

split drive roll, the assembled split drive roll and gear may now be placed in the drive roll shafts, and the drive roll securing bolts and washers installed.)

NOTE

When the knurled groove of the drive rolls becomes worn, the split drive roll halves may be reversed so that the outside edges will now provide a new knurled groove.

8. Align all three wire guides so that the ends of the guides are 1/16 inch away from the drive rolls. Tighten the securing screws.
9. Ensure that the teeth of the upper drive rolls mesh with the teeth of the lower drive rolls, and pivot the pressure adjustments upward until the washer on the pressure adjustments is seated on top of the drive roll cover.

2-11. SPINDLE ASSEMBLY INSTALLATION (Figure 2-8)

1. Insert spindle support shaft (15) into the desired hole in spindle support (16). The hole to be utilized in the spindle support (16) will depend on the size of the wire spool being used.
2. Slide washer (17) onto spindle support shaft (15) and secure with cotter pin (18).
3. Slide the following items onto the spindle support shaft (15) in order given:
 - A. Fiber Washer (14)
 - B. Flat Washer (13)
 - C. Hub (12)
 - D. Flat Washer (8)
 - E. Fiber Washer (7)
 - F. Keyed Washer (6)
 - G. Spring (5)
 - H. Flat Washer (4)
4. Rotate hex nut (3) onto support shaft (15). Hex nut (3) should be rotated only until a slight drag is felt while turning hub (12).
5. Proceed to install welding wire according to the applicable Section: 2-12 for spool-type wire; and 2-13, 2-14 for reel-type wire.

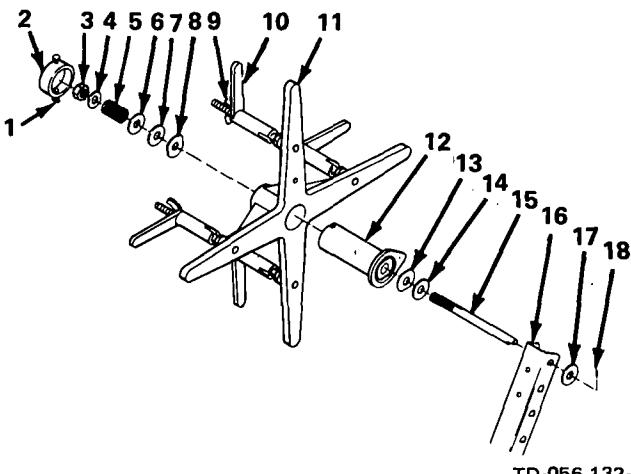


Figure 2-8. Hub And Reel Installation

2-12. INSTALLATION OF SPOOL-TYPE WIRE (Figure 2-8)

1. Slide the spool of wire onto the hub so that the wire feeds off the bottom of the spool. The spool turns in a counterclockwise direction.
2. Rotate the spool until the hole in the spool aligns with the pin in the hub. Slide the spool onto the hub until it seats against the back flange of the hub.

3. Depress the two spring-loaded stops (1) on the retaining ring (2) and slide the retaining ring into proper position on the hub (12). Release the two stops (1).

2-13. INSTALLATION OF WIRE REEL (Figure 2-8)

1. Slide the wire reel (11) onto the hub (12). Rotate the wire reel (11) until the hub guide pin is seated in the reel (11).
2. Depress the two spring-loaded stops (1) on the retaining ring (2) and slide the retaining ring (2) into proper position on the hub (12). Release the two stops (1).

2-14. INSTALLATION OF REEL-TYPE WIRE (Figure 2-8)

1. Loosen the four wing nuts (9) on the fingers (10) of the wire reel (11).
2. Pull the four fingers (10) out until they can be rotated toward the center of the reel (11).
3. Install the wire onto the reel (11) over the four fingers (10). Ensure that the wire feeds off the bottom of the reel (11). The reel (11) turns in a counterclockwise direction.
4. Rotate the four fingers (10) back to their proper position. Tighten the four wing nuts (9).

2-15. ADJUSTING HUB TENSION (Figure 2-8)

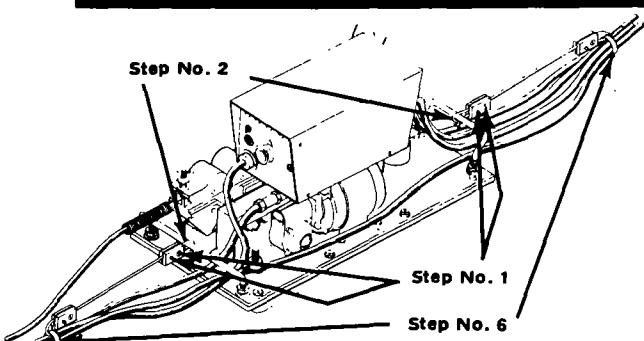
Check hub tension by slowly pulling wire toward the feed roll. The wire should unwind freely, but the hub tension should be sufficient to keep the wire taut and prevent backlash when the control/feeder is shut off. If adjustment is required, loosen or tighten the hex nut (3) on the end of the spindle support shaft (15) accordingly.

2-16. STRAIN RELIEF INSTALLATION (Figure 2-9)

1. Loosen the two screws on the strain relief cable clamp which does not have the hose clamp inserted through it.
2. Pull out the short end of the cable from the clamp and loop it around the control/feeder carrying handle. Ensure that it is inserted through the eyelet on the center of the carrying handle.
3. Insert the cable end back into the cable clamp and secure the two screws.
4. Fully open the hose clamp, keeping it inserted through the loop of the strain relief cable.
5. Ensure that all cables (except the conduit cable) are inserted underneath the carrying handle.
6. Group all the cables together (except the conduit cable) and install them through the hose clamp. Leaving a small amount of slack in the cables, stretch the strain relief cable tight and secure the hose clamp around the cables.

IMPORTANT

Do not tighten the hose clamp too securely as this may cut off shielding gas flow.



C-056 132-2C

Figure 2-9. Strain Relief Installation

2-17. WELDING WIRE THREADING

1. Loosen the wing nut on each of the drive roll pressure adjustments, pivot adjustments downward, and lift the pressure gear covers upward.
2. Cut off any portion of the free end of the welding wire which is not straight. Feed the welding wire through the inlet wire guide in the drive roll assembly.
3. Continue to feed the welding wire through the intermediate and outlet wire guides.
4. Pivot the pressure gear covers downward making sure the teeth on the upper gears mesh with lower drive gears. The welding wire must also be in the grooves of the upper and lower drive rolls.
5. Pivot the drive roll pressure adjustments upward into the slot on the pressure gear covers making sure the lower flat washer is above the pressure gear cover.

6. Turn the wing nuts on the drive roll pressure covers in a clockwise direction until the drive rolls are tight against the welding wire. Do not overtighten. Further adjustment can be made after the welding power source and control/feeder are put into operation.
7. Connect the gun to the control/feeder according to the instructions in the gun Instruction Manual.
8. Energize the welding power source.
9. Place the control/feeder POWER switch in the ON position.
10. Depress the INCH switch. This will run the welding wire through the gun without placing weld current on the welding wire. Release the INCH switch after the end of the welding wire extends approximately one inch from the end of the gun tip.

SECTION 3 - FUNCTION OF CONTROLS

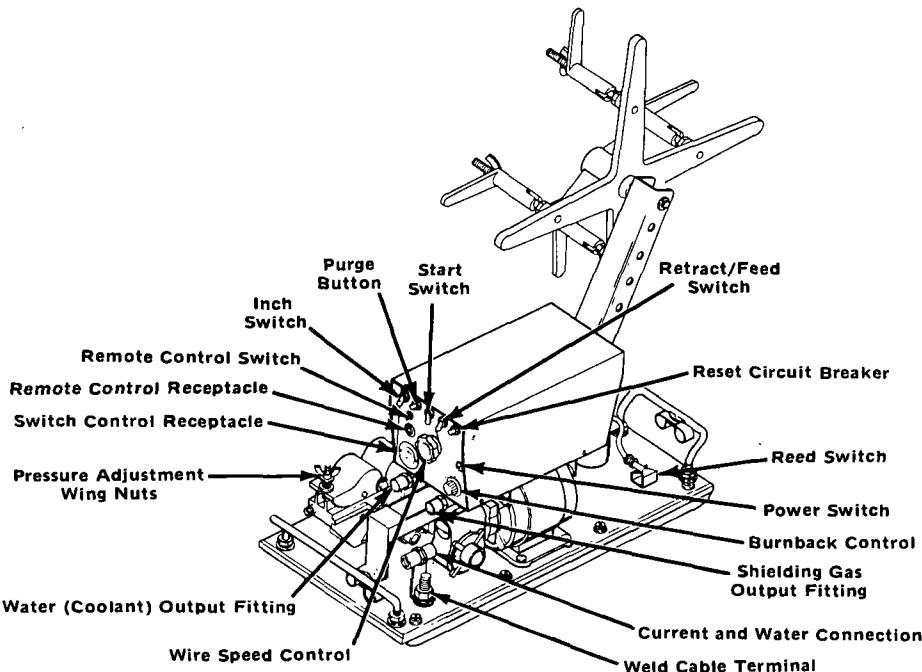


Figure 3-1. Control/Feeder Components

3 - 1. POWER SWITCH (Figure 3-1)

Placing the POWER switch on the control/feeder in the ON position will apply 115 volts ac to the unit and thereby place it in an operational condition. Placing the POWER switch in the OFF position will shut the control/feeder down.

CAUTION

Placing the POWER switch in the OFF position does not remove power from all of the control/feeder's internal circuitry. Completely terminate all electrical power to the control/feeder by removing the 115 volts ac plug from its power supply, and ensure that "machinery lockout procedures" have been employed on the welding power source's input line (see Instruction Manual on welding power source) before attempting any inspection or work inside the unit.

3 - 2. WIRE SPEED CONTROL (Figure 3-1)

The WIRE SPEED control provides a means of determining the rate at which welding wire will be fed into the weld. Rotating the WIRE SPEED control in a clockwise direction will increase the rate of the wire feed. When the WIRE SPEED control is set at 0, wire will feed at the slowest speed; when set at 100, the wire will feed at the fastest speed.

The scale which surrounds the WIRE SPEED control is calibrated in increments of ten ranging from 0 to 100.

percent. Due to this percentage calibration, it should be noted that if this scale is being used to select a wire feed speed setting, only a percentage of the range in use is being selected and not an actual wire feed speed rate.

3 - 3. REMOTE CONTROL RECEPTACLE & SWITCH (Figure 3-1)

The wire speed may also be adjusted by a Remote Control (optional). Connect the Remote Control plug to the REMOTE CONTROL receptacle on the front panel of the control/feeder, and position the STANDARD-REMOTE control switch on the control/feeder and on the Remote Control unit to the REMOTE position. If it is desired to return the control of the wire speed to the control/feeder, place the STANDARD-REMOTE switch on either the control/feeder or the Remote Control to the STANDARD position.

3 - 4. PURGE BUTTON (Figure 3-1)

The PURGE button, located on the front panel of the control/feeder, is a momentary contact switch. This switch will energize the gas solenoid and purge the shielding gas line of the gun. The PURGE button also allows the shielding gas regulator to be adjusted without energizing the welding circuit.

3 - 5. INCH SWITCH (Figure 3-1)

The INCH switch, located on the front panel of the control/feeder, is a spring-loaded toggle switch. When actuated it completes the circuit to the motor without having to depress the gun trigger switch. This switch will permit

inch of the wire at whatever setting the WIRE SPEED control is at, without energizing the welding circuit or the shielding gas valve.

3 - 6. START SWITCH (Figure 3-1)

The START switch provides the capability of being able to select either a slow wire feed speed for 1/2 second at the beginning of wire feed, or the wire feed speed at the rate set on the WIRE SPEED control. The SLOW position of the START switch will provide the 1/2 second of slow wire feed, and the FAST position will provide wire feed at the rate set on the WIRE SPEED control.

3 - 7. RETRACT-FEED SWITCH (Figure 3-1)

The RETRACT-FEED switch will determine whether the wire will feed out of the gun or back into the gun when the gun switch is closed. The RETRACT position will cause the wire to go back into the gun, and the FEED position will cause the wire to feed out of the gun.

SECTION 4 - SEQUENCE OF OPERATION

4 - 1. GAS METAL-ARC (GMAW) WELDING

1. Make all connections as instructed in Section 2.
2. Place the RETRACT-FEED switch in the FEED position.
3. Place the START switch in the desired position.
4. Rotate the WIRE SPEED control to the desired setting.
5. If a Remote Wire Speed Control is not to be used, place the REMOTE CONTROL switch in the STANDARD position. If a Remote Wire Speed Control is to be used, place both the REMOTE CONTROL switch on the Remote Wire Speed Control and on the control/feeder in the REMOTE position.
6. Place the POWER switch on the control/feeder in the ON position.
7. Depress the PURGE button for one minute.
8. Energize the welding power source.

CAUTION

Prior to welding, it is imperative that proper protective clothing (welding coat and gloves) and eye protection (glasses and/or welding helmet) be put on. Failure to comply may result in serious or permanent bodily damage.

CAUTION

The welding wire and all metal parts in contact with it are energized while welding. Do not touch the welding wire or any metal part making contact with it.

4 - 2. SHUTTING DOWN

1. Turn off the shielding gas and water at the source.
2. Place the POWER switch on the control/feeder in the OFF position, and remove the 115 Volts AC plug from the source.
3. Turn off all associated equipment.

CAUTION

If welding is performed in a confined area, failure to turn off the shielding gas supply could result in a buildup of gas fumes, thereby endangering personnel reentering the welding area.

SECTION 5 - MAINTENANCE

5 - 1. INSPECTION AND UPKEEP

Usage and shop conditions will determine the frequency and type of maintenance. Inspect equipment as follows:

1. Make sure welding power source is shutdown.
2. Inspect gun for broken areas, cracks and loose parts; tighten, repair, and replace as required.
3. Carefully remove any weld spatter or foreign matter which may accumulate around the nozzle orifice. Use a hardwood stick, never a metal tool.
4. Repair or replace, as required, all hose and cable; give particular attention to frayed and cracked insulation and areas where it enters equipment.
5. Remove grease and grime from components; moisture from electrical parts and cable.
6. Blow out the gun wire guide liner with compressed air when changing wire. This will remove any metal chips and dirt that may have accumulated.

5 - 2. CLEANING OF DRIVE ROLL BEARINGS

Occasionally it will become necessary to clean and oil the oilite bearings which are pressed into the four drive rolls. This cleaning operation should be performed whenever the oilite bearings appear dirty and grimy.

To clean and oil these bearings it will be necessary to first remove the four drive roll gears. (See Section 2-10 for removal and installation instructions.) Once removed, use a clean rag to wipe the bearings clean. Apply a light coat of oil to the bearings, and install the bearings back onto the drive roll shafts.

5 - 3. FUSES (Figure 2-4)

The control/feeder is protected from damage due to an internal short or excessive overload by two fuses. These fuses (F1 & F2) are located on the rear panel of the control/feeder. If either one of these fuses should open, the control/feeder would be completely inoperative.

SECTION 6 - TROUBLESHOOTING

CAUTION

Hazardous voltages are present on the internal circuitry of the control/feeder as long as power is connected to the unit. Disconnect power before attempting any inspection or work on the inside of the unit. Troubleshooting of internal circuitry should be performed by qualified personnel only.

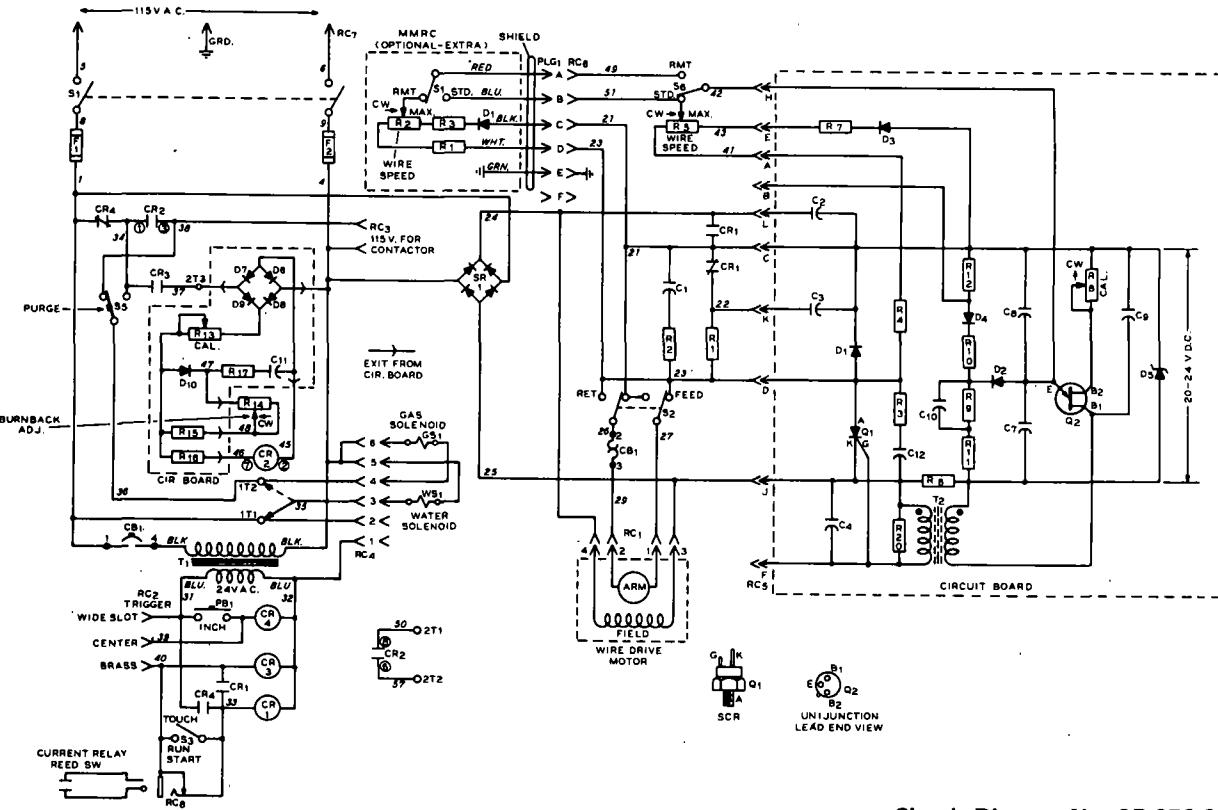
The following chart is designed to diagnose and provide remedies for some of the troubles that may develop in this control/feeder.

It is assumed that proper installation has been made, according to Section 2 of this manual, and that the control/feeder has been functioning properly until this trouble developed.

Use this chart in conjunction with the circuit diagram while performing troubleshooting procedures. If the trouble is not remedied after performing these procedures, the nearest Factory Authorized Service Station should be contacted. In all cases of equipment malfunction, the manufacturer's recommendations should be strictly followed.

TROUBLE	PROBABLE CAUSE	REMEDY
Depressing gun switch will not energize control/feeder. Electrode wire is not energized and shielding gas does not flow.	POWER switch in wrong position or defective.	Place switch to ON position.
	Circuit breaker (CB1) tripped.	Replace defective POWER switch.
	Plug from gun switch is not secure in Switch Control receptacle (RC2) on control/feeder.	Manually reset circuit breaker by depressing the red button on the front panel of the control/feeder labeled RESET.
	115 volts ac input plug is not secure in receptacle (RC7) and/or input line.	Insert plug fully into Switch Control receptacle (RC2) and rotate plug 1/2 turn clockwise.
	115 volts input fuse(s) (F1 and/or F2) open.	Insert plug fully into 115 vac receptacle (RC7) and rotate plug 1/2 turn clockwise, check plug at input line.
	Lead(s) 31 or 33 on the rear of the Switch Control receptacle is loose.	*Replace fuse(s) (F1 and/or F2).
	Coil of plug-in relay (CR1) defective.	Remove control/feeder cover and check lead 31 & 33 connections on the rear of the receptacle.
Wire feeds, shielding gas flows, but electrode wire is not energized.	115 vac Contactor Control plug is not secure in contactor receptacle on welding power source and/or control/feeder.	Replace relay (CR1).
	Contactor Control cable leads not secure on contactor plug terminals.	Insert plug fully into receptacle and rotate plug 1/2 turn clockwise (check both ends).
	Defect in welding power source.	Secure leads to plug terminals.
Wire feeds erratically.	Pressure on drive rolls is insufficient.	See troubleshooting section in welding power source instruction manual.
	Drive roll is too large for wire size being used.	Rotate pressure adjustment wing nuts clockwise in 1/4 turn increments until wire slippage stops.
	Worn drive roll.	Change to proper size drive roll. See Section 2-10.
	Dirt in drive roll.	Replace drive roll. See Section 2-10.

*If it becomes necessary to replace any fuse in the control/feeder, ensure that a fuse of the proper size is used.



Circuit Diagram No. CB-056 635-1C

Figure 6-1. Circuit Diagram

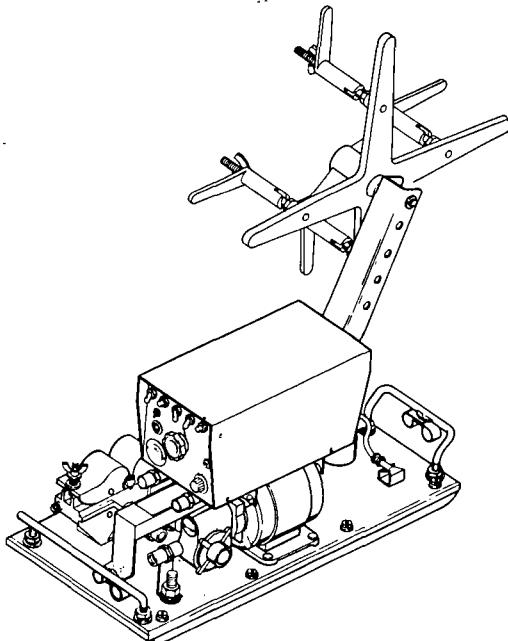
Effective With Serial No. HF843540

MODEL

STOCK NO.

MILLERMATIC 30B
CONTROL/FEEDER

.030 Wire V-Groove	057 130
.035 Wire V-Groove	057 131
.045 Wire V-Groove	057 132
1/16 Wire V-Groove	057 133
.045 Wire U-Groove	057 134
1/16 Wire U-Groove	057 135
5/64 Wire U-Groove	057 136
3/32 Wire U-Groove	057 137
7/64 Wire U-Groove	057 138
1/8 Wire U-Groove	057 139
1/16 Wire V-Knurled	057 140
5/64 Wire V-Knurled	057 141
3/32 Wire V-Knurled	057 142
7/64 Wire V-Knurled	057 143
1/8 Wire V-Knurled	057 144



MODEL/STOCK NO.

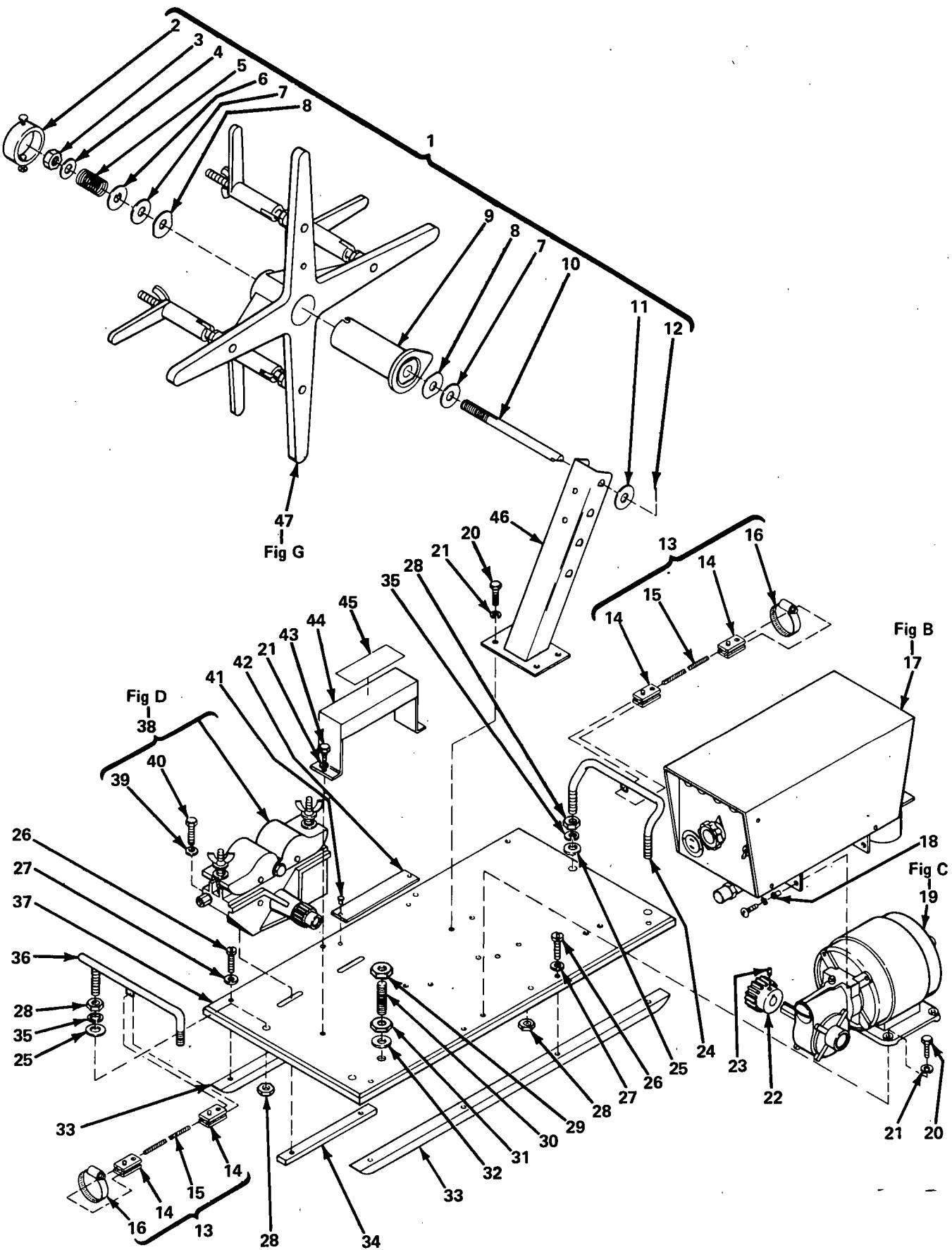
SERIAL/STYLE NO.

DATE PURCHASED

PARTS LIST



MILLER ELECTRIC MFG. CO.
APPLETON, WISCONSIN, USA 54911

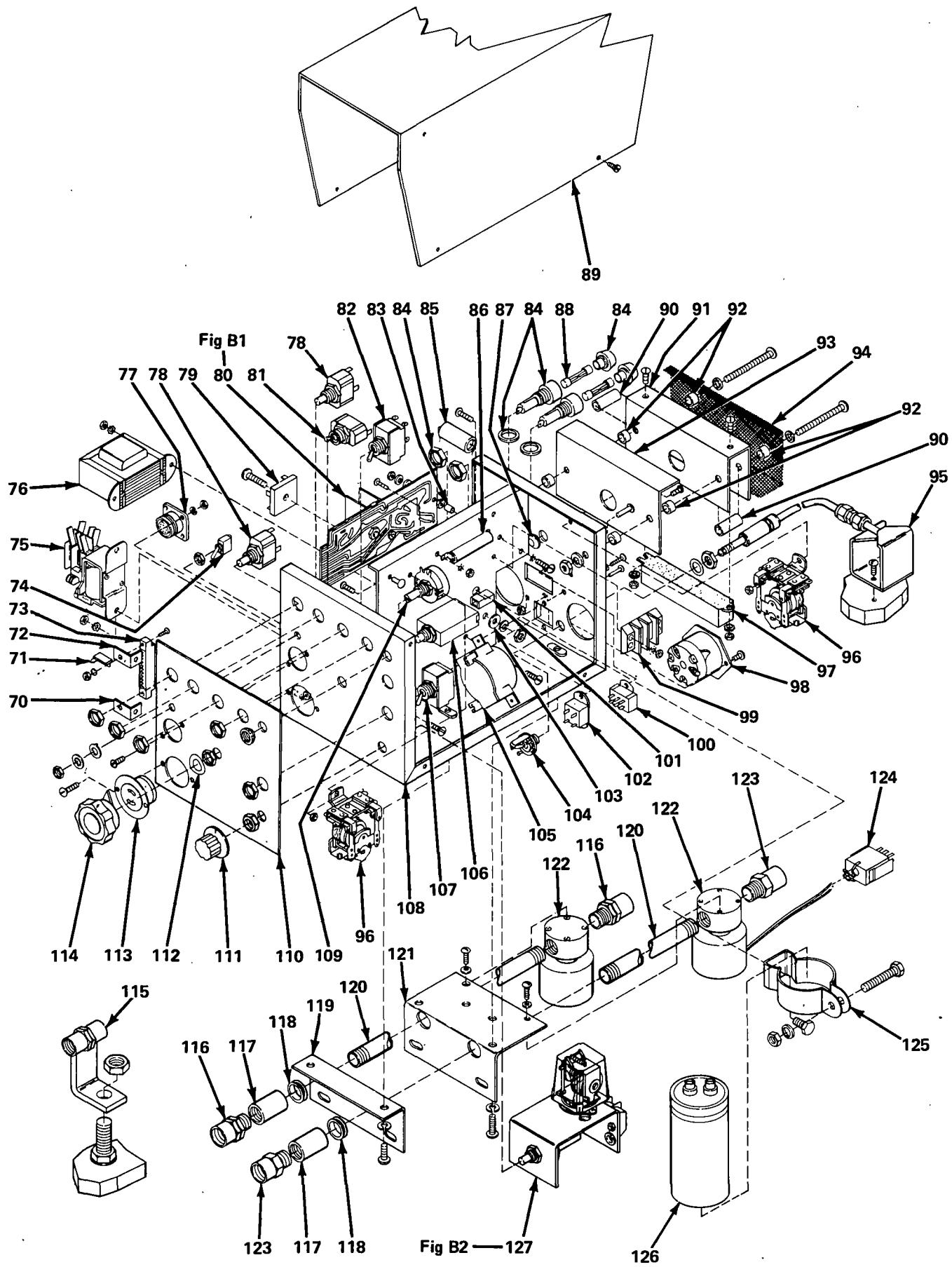


TD-056 132-C

Figure A — Main Assembly

Item No.	Factory Part No.	Description	Quantity
Figure A		Main Assembly	
1	058 432	HUB & SPINDLE ASSEMBLY (consisting of)	1
2	058 427	. RING, retaining - spool	1
3	601 884	. NUT, steel - hex jam 5/8-11	1
4	605 941	. WASHER, flat - steel 41/64 ID x 1 OD	1
5	010 233	. SPRING, compression	1
6	057 971	. WASHER, flat - steel keyed 1-1/2 dia	1
7	010 191	. WASHER, fiber 5/8 ID x 1-1/2 OD x 1/8	2
8	058 628	. WASHER, steel - brake	2
9	058 428	. HUB, spool - plastic	1
10	058 434	. SPINDLE, support - hub	1
11	602 249	. WASHER, flat - steel SAE 5/8	1
12	605 946	. PIN, cotter 1/8 x 1	1
13	057 331	RELIEF, strain (consisting of)	2
14	057 318	. CLAMP, tiller line 1/8 to 1/4	2
15	057 327	. CABLE	1
16	010 860	. CLAMP, hose 13/16 to 1-3/4 clamp dia	1
17	057 334	CONTROL BOX ASSEMBLY (See Fig. B Page 4)	1
18	034 098	EYELET, brass	4
19	004 881	MOTOR, gear (See Fig. C Page 8)	1
20	604 631	SCREW, cap - steel hex hd 1/4-20 x 1	8
21	602 207	WASHER, lock - steel split 1/4	10
22	058 877	GEAR, spur - nylon 30 tooth	1
22	058 878	GEAR, spur - nylon 24 tooth	1
22	056 094	GEAR, steel 15 tooth	1
23	604 799	SCREW, set - steel socket hd 1/4-20 x 3/4	1
24	057 319	HANDLE, carrying	1
25	010 910	WASHER, flat - steel SAE 3/8	4
26	604 475	SCREW, self tapping - pan hd 1/4-20 x 1-1/4	8
27	602 241	WASHER, flat - steel SAE 1/4	8
28	601 871	NUT, steel - hex jam 3/8-16	8
29	601 839	NUT, brass - hex full 1/2-13	1
30	038 825	STUD, brass 1/2-13 x 2	1
31	601 840	NUT, brass - hex jam 1/2-13	1
32	602 247	WASHER, flat - steel SAE 1/2	1
33	056 330	SKID, base	2
34	056 327	BAR, anchor	1
35	602 213	WASHER, lock - steel split 3/8	4
36	028 944	HANDLE, carrying	1
37	028 939	BASE	1
38	057 735	DRIVE ASSEMBLY, wire (See Fig. D Page 10) (consisting of)	1
39	604 538	. WASHER, flat - steel SAE 5/16	2
40	601 959	. SCREW, cap - steel hex hd 5/16-18 x 1-1/2	2
41	602 024	SCREW, drive U type No. 2 x 3/16	2
42		NAMEPLATE (order by stock, model & serial numbers)	1
43	601 926	SCREW, cap - steel hex hd 1/4-20 x 5/8	2
44	056 331	GUARD, drive roll	1
45	012 236	LABEL, important do not use 2 steel gears	1
46	058 429	SUPPORT, spindle	1
47	056 416	REEL, wire (See Fig. G Page 13)	1
	010 603	FITTING, hose - brass barbed nipple 1/4 TBG	1
	010 606	NUT, brass - swivel 5/8-18 right hand	1
	039 618	CAP, twistlock 2P2W	1
	056 442	BODY, connector - grounded twistlock 2P3W	1

BE SURE TO PROVIDE STOCK, MODEL, AND SERIAL NUMBERS WHEN ORDERING REPLACEMENT PARTS.



TD-056 905-B

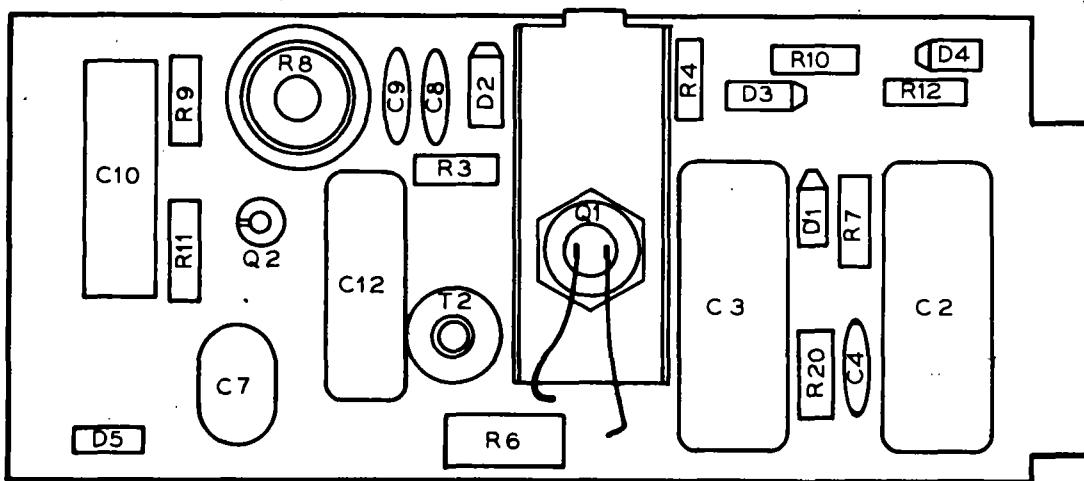
Figure B – Control Box Assembly

Item No.	Dia. Mkgs.	Factory Part No.	Description	Quantity
Figure B	057 335	Control Box Assembly (See Fig. A Page 2 Item 17)		
70		056 214	BRACKET, mounting - circuit card assembly	1
71		038 784	STRIP, terminal 1 pole	1
72		056 171	BRACKET, mounting - circuit card assembly	1
73	RC5	039 756	CONNECTOR, edge PC card 10 pin	1
74	S6	*011 770	SWITCH, toggle SPDT 5 amp 125 volts	1
75	CR1	*034 841	RELAY, 24 volts ac DPDT	1
76	T1	*036 135	TRANSFORMER, 115/24 volts ac	1
77	RC6	039 825	RECEPTACLE, 6 socket MS-3102A-14S-6S	1
78	S5,PB1	011 232	SWITCH, push button SPDT	2
79	SR1	035 914	RECTIFIER, integrated 25 amp 400 volts	1
80		057 314	CIRCUIT CARD ASSEMBLY (See Fig. B1 Page 5)	1
81	S3	011 233	SWITCH, toggle SPDT 10 amp 125 volts ac	1
82	S2	011 059	SWITCH, toggle DPDT 15 amp 125 volts	1
83		010 301	BUSHING, brass 0.106 ID x 1/4 OD x 5/16	1
84		012 617	HOLDER, fuse - miniature 1/4 x 1/4	2
85	TR1	*037 551	THYRECTOR	1
86	R1	*030 942	RESISTOR, WW fixed 12 watt 10 ohm	1
87		057 084	BUSHING, snap 1/4 ID 3/8 mounting hole	1
88	F1,2	*012 655	FUSE, miniature - glass 10 amp	2
89		056 328	WRAPPER	1
90		010 199	TUBING, steel 0.275 ID x 0.048 wall x 1	2
91		030 949	HEAT SINK, rectifier	1
92		010 193	TUBING, steel 3/8 OD x 18 ga wall x 1/4	6
93		056 169	BRACKET, mounting - heat sink	1
94		056 170	SHIELD, wire feeder	1
95		057 053	RELAY, current	1
96	CR3,4	*034 805	RELAY, 24 volts ac DPDT	2
97	R2	*030 941	RESISTOR, WW fixed 100 watt 5 ohm	1
98	RC7	056 665	RECEPTACLE, twistlock - flanged	1
99	1T	038 855	BLOCK, terminal 20 amp 14 pole	1
100	RC4	056 266	CONNECTOR, female 6 contact	1
101		026 837	INSULATOR, terminal - nylon	2
102	RC1	054 116	CONNECTOR, female 4 contact	1
103		602 193	WASHER, fiber 1/4 ID x 1/2 OD x 1/16	1
104	RC8	057 059	JACK, 3/c	1
105	RC3	039 855	RECEPTACLE, twistlock 2P2W	1
106	CB1	*011 991	CIRCUIT BREAKER, 1P 1.5 amp 250 volts	1
107	S1	*011 020	SWITCH, toggle DPST 6 amp 125 volts	1
108		056 720	CHASSIS, control box	1
109	R5	*030 943	POTENTIOMETER, carbon 1 turn 2 watt 15K ohm	1
110			NAMEPLATE (order by model and style number)	1
111		019 666	KNOB, line - indicator	1
112		010 929	WASHER, flat - steel spring 3/8	1
113	RC2	039 749	RECEPTACLE, twistlock - flanged out 3P3W	1
114		019 609	KNOB, pointer	1
115		056 745	ADAPTER, current & water	1
116		010 605	FITTING, hose - brass bushing 1/4 NPT x 5/8-18 LH	2
117		602 934	FITTING, pipe - galvanized coupling 1/4 NPT	2
118		010 378	GROMMET, rubber 9/16 ID x 3/4 mounting hole	2
119		056 166	BRACKET, mounting - front control box	1
120		010 190	FITTING, pipe - galvanized nipple L 1/4 NPT x 10	2
121		056 165	BRACKET, mounting - rear control box	1
122	GS1,WS1	035 601	VALVE, 115 volts ac 2 way 1/4 IPS port 1/8 orifice (consisting of)	2
		*033 050	. COIL, valve 115 volts ac	1
123		010 604	FITTING, hose - brass bushing 1/4 NPT 5/8-18 RH	2
124		056 265	CONNECTOR, male 6 contact	1
125		010 927	HANGER, minerallic No. 4	1
126	C1	*031 692	CAPACITOR, electrolytic 750 uf 200 volts dc	1
127		Figure B2	CONTROL ASSEMBLY, burn back (See Page 6)	1

*Recommended Spare Parts.

BE SURE TO PROVIDE STOCK, MODEL AND STYLE NUMBERS WHEN ORDERING REPLACEMENT PARTS.

Dia. Mkgs.	Factory Part No.	Description	Quantity
Figure B1 057 314 Circuit Card Assembly (See Fig. B Page 4 Item 80)			
C2,3	031 694	CAPACITOR, mylar 0.47 uf 200 volts dc	2
C4,8,9	031 643	CAPACITOR, ceramic 0.01 uf 500 volts dc	3
C7	031 693	CAPACITOR, mylar 0.33 uf 75 volts dc	1
C10	031 633	CAPACITOR, electrolytic 80 uf 25 volts dc	1
C12	031 721	CAPACITOR, mylar 0.2 uf 200 volts dc	1
D1-4	026 202	DIODE, 1 amp 400 volts straight polarity	4
D5	037 250	DIODE, zener 24 volts 1 watt straight polarity	1
Q1	037 824	THYRISTOR, 7.4 amp 200 volts	1
	010 915	WASHER, flat - brass 1/4 (mounting Q1)	1
	602 208	WASHER, lock - steel external tooth 1/4 (mounting Q1)	1
	601 867	NUT, steel - hex jam 1/4-20 (mounting Q1)	1
	037 261	HEAT SINK	1
Q2	037 289	TRANSISTOR, unijunction 50MA 35 volts	1
R3	030 937	RESISTOR, carbon 0.5 watt 10 ohm	1
R4	030 854	RESISTOR, carbon 0.5 watt 18K ohm	1
R6	030 945	RESISTOR, carbon 2 watt 4700 ohm	1
R7	028 276	RESISTOR, carbon 0.5 watt 2200 ohm	1
R8	030 944	POTENTIOMETER, WW 1 turn 2 watt 5000 ohm	1
R9	030 936	RESISTOR, carbon 0.5 watt 33K ohm	1
R10	030 853	RESISTOR, carbon 0.5 watt 2200 ohm	1
R11	030 938	RESISTOR, carbon 0.5 watt 1200 ohm	1
R12	030 934	RESISTOR, carbon 0.5 watt 6800 ohm	1
R20	030 090	RESISTOR, carbon 0.5 watt 47 ohm	1
T2	036 143	TRANSFORMER, pulse	1
	602 196	WASHER, lock - steel internal tooth No. 4 (mounting T2)	1
	601 858	NUT, steel - hex 4-40 (mounting T2)	1
	026 750	MOUNTING PAD, semi conductor	1



TA-057 314

Figure B1 – Circuit Card Assembly

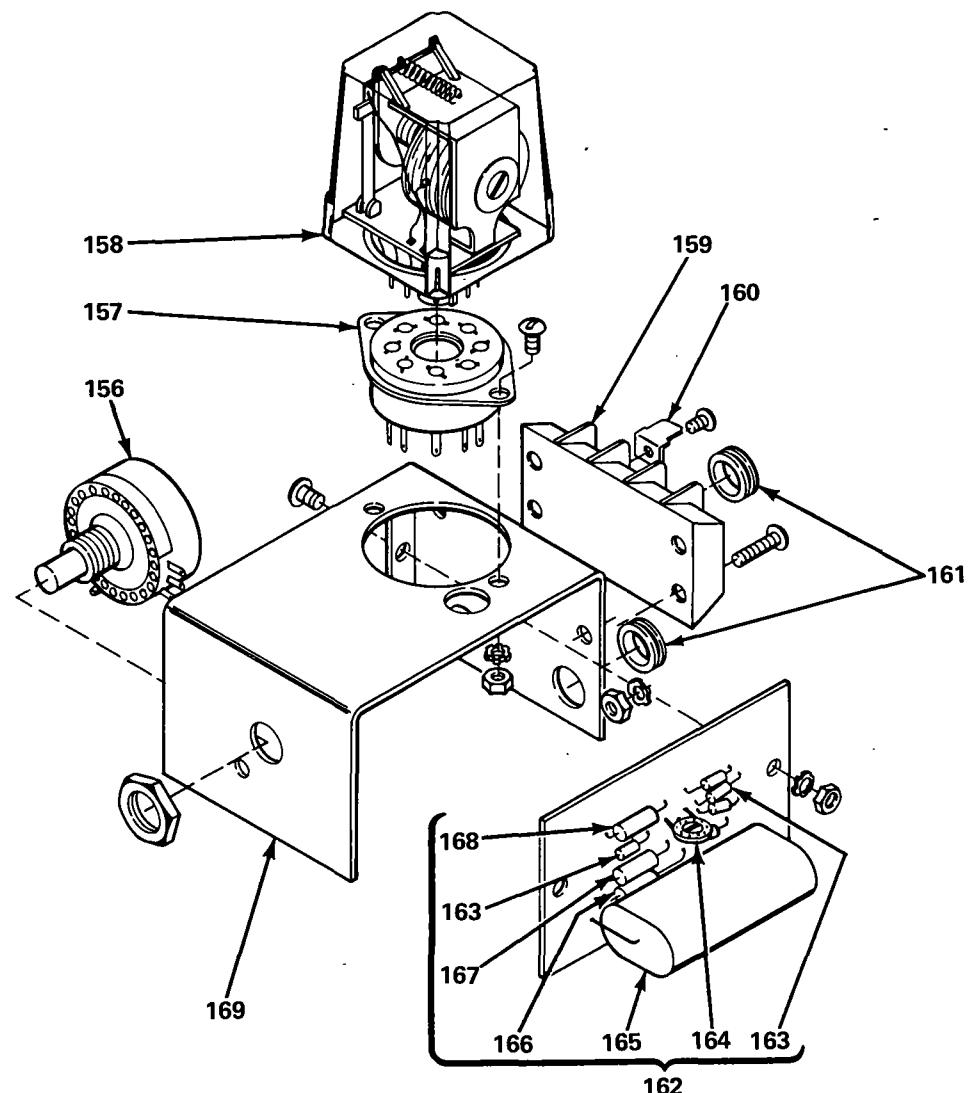
**COMPONENTS TO BE
REPLACED BY QUALIFIED
PERSONNEL ONLY**

BE SURE TO PROVIDE STOCK, MODEL, AND SERIAL NUMBERS WHEN ORDERING REPLACEMENT PARTS.

Item No.	Dia. Mkgs.	Factory Part No.	Description	Quantity
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Figure B2 056 790 Control, Burnback (See Fig. B Page 4 Item 127)

156	R14	030 108	POTENTIOMETER, carbon 1 turn 2 watt 100K ohm	1
157		039 702	SOCKET, tube 8 pin	1
158	CR2	*034 730	RELAY, enclosed 10,000 ohm	1
		057 575	SPRING, holdown - relay	1
159	2T	038 861	BLOCK, terminal 20 amp 3 pole	1
160		038 866	CONNECTOR, black 30 amp	1
161		604 311	GROMMET, 1/4 ID 3/8 mounting hole	2
162		056 791	CIRCUIT CARD ASSEMBLY (consisting of)	1
163	D6-10	603 951	. DIODE, rectifier 1 amp 400 volts straight polarity	5
164	R13	030 049	. POTENTIOMETER, carbon trimmer 1 turn 0.25 watt 5000 ohm	1
165	C11	031 713	. CAPACITOR, mylar 5 uf 200 volts dc	1
166	R17	030 033	. RESISTOR, carbon 0.5 watt 470 ohm	1
167	R15	030 047	. RESISTOR, carbon 0.5 watt 39K ohm	1
168	R16	030 048	. RESISTOR, carbon 0.5 watt 8200 ohm	1
169		056 802	CHASSIS, mounting - component	1



TB-056 790

Figure B2 – Control Assembly, Burnback

*Recommended Spare Parts.

BE SURE TO PROVIDE STOCK, MODEL AND SERIAL NUMBERS WHEN ORDERING REPLACEMENT PARTS.

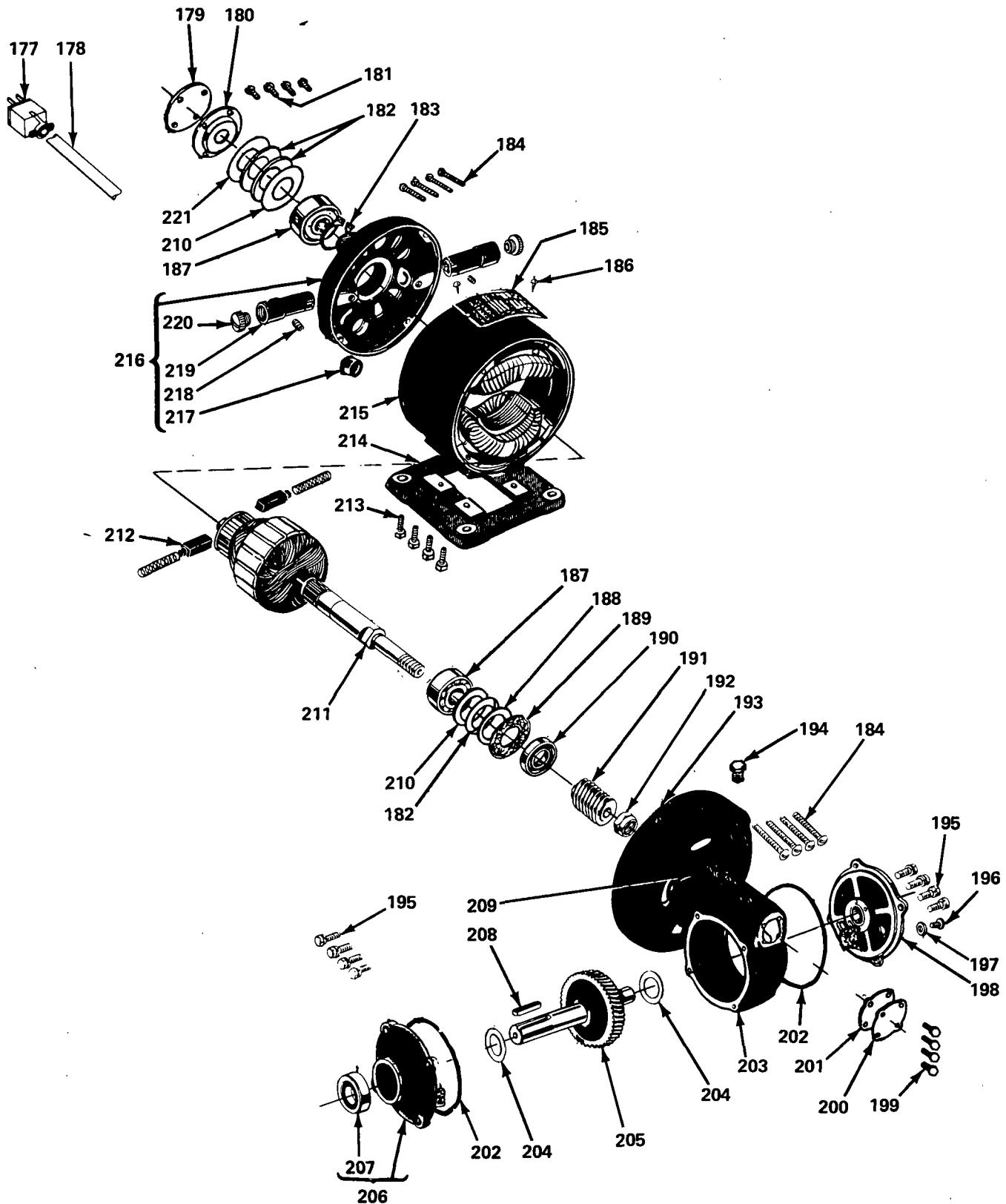


Figure C – Motor, Gear

Item No.	Factory Part No.	Description	Quantity
Figure C	004 881	Motor, gear (See Fig. A Page 2 Item 19)	
177	056 264	CONNECTOR, male 4 contact 10 amp	1
178	604 571	CORD, portable No. 18 4/C (order by foot)	2 ft.
179	054 393	PLATE	1
180	054 394	WASHER, felt - retainer	1
181	602 080	SCREW, machine - steel round hd 8-32 x 3/8	4
182	054 434	WASHER	3
183	009 411	RING, retaining - external	1
184	602 099	SCREW, machine - steel round hd 10-32 x 1-3/8	8
185	054 404	NAMEPLATE, motor	1
186	056 373	PIN, nameplate	2
187	052 182	BEARING, ball	2
188	054 413	WASHER	As Req'd
189	054 414	GASKET	1
190	054 415	SEAL	1
191	054 417	WORM	1
192	054 418	NUT	1
193	009 407	BACK SHIELD	1
194	054 433	PLUG, oil - fill	1
195	009 415	SCREW, shield - gear housing	8
196	054 432	SCREW	1
197	054 431	GASKET	1
198	009 405	END SHIELD ASSEMBLY	1
199	009 414	SCREW, end cap	4
200	009 413	END CAP, gear - housing	1
201	009 412	GASKET	1
202	009 416	SEAL, O-ring	2
203	009 408	HOUSING, gear	1
204	009 417	WASHER, spacer	2
205	056 377	GEAR & SHAFT, drive	1
206	009 404	END SHIELD ASSEMBLY (consisting of)	1
207	054 422	. SEAL, housing - gear	1
208	054 426	KEY	1
209	009 409	SCREW, gear - housing	4
210	009 410	WASHER, spacing	2
211	052 181	ARMATURE, motor	1
212	*056 378	BRUSH & SPRING	2
213	054 408	SCREW	4
214	054 407	BASE	1
215	054 406	FIELD ASSEMBLY, motor	1
216	054 399	SHIELD (consisting of)	1
217	009 406	. BUSHING, terminal	1
218	054 401	. SCREW, set	2
219	054 400	. BRUSH HOLDER	2
220	054 398	. CAP	2
221	054 396	WASHER	As Req'd

*Recommended Spare Parts.

BE SURE TO PROVIDE STOCK, MODEL, AND SERIAL NUMBERS WHEN ORDERING REPLACEMENT PARTS.

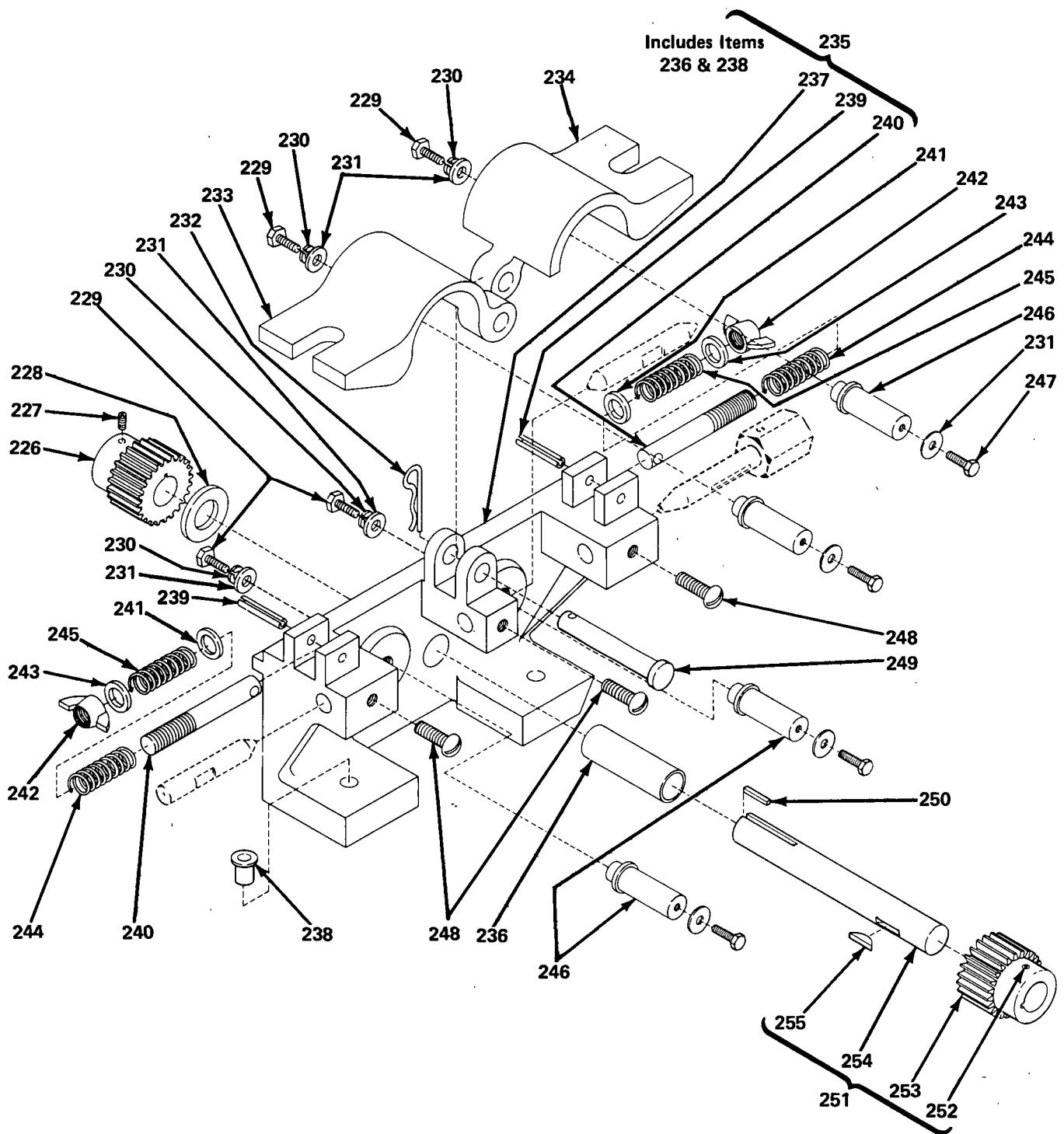
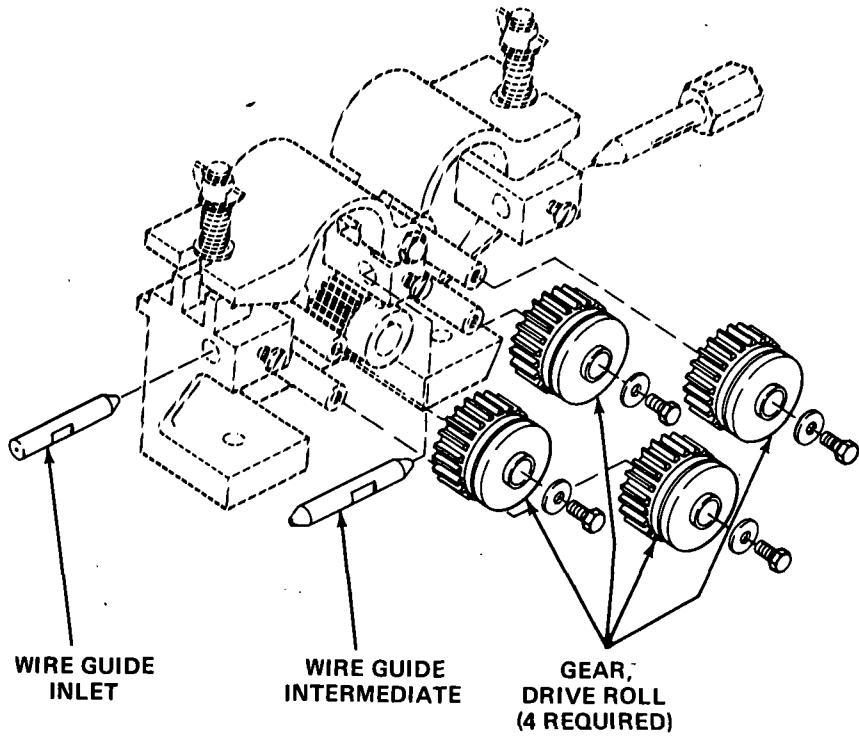


Figure D — Drive Assembly, Wire

TD-056 150-B

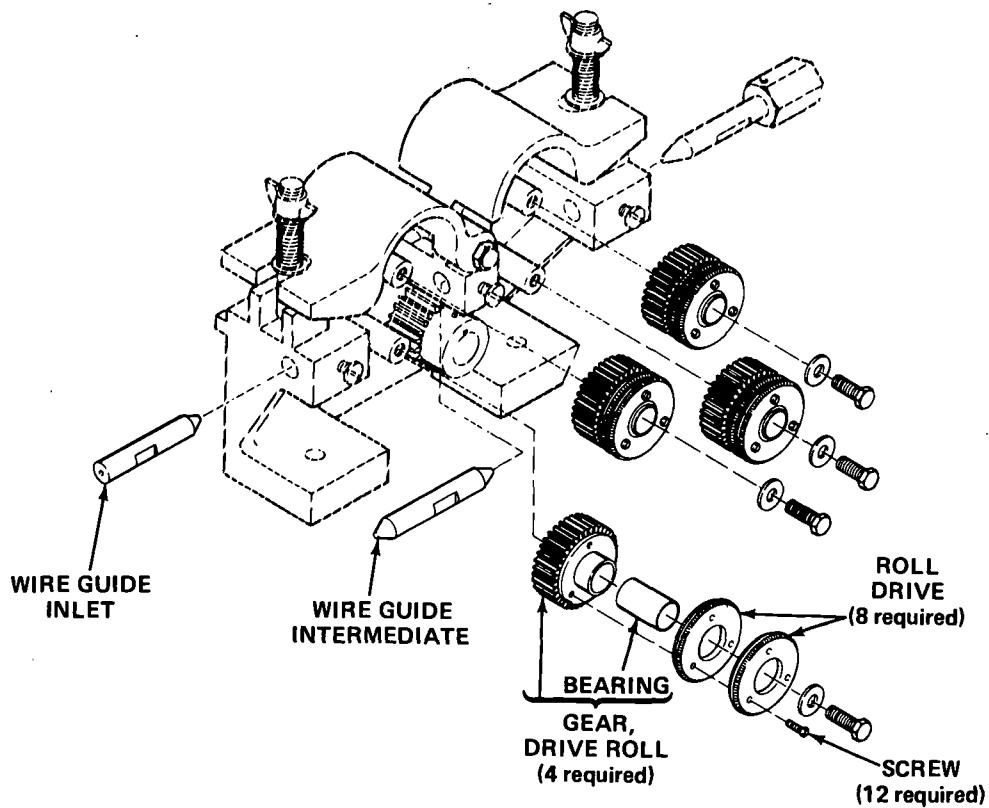
Item No.	Factory Part No.	Description	Quantity
Figure D	057 735	Drive Assembly, Wire (See Fig. A Page 2 Item 38)	
226	056 095	GEAR, spur - steel 24 tooth	1
227	602 179	SCREW, set - steel socket hd 1/4-20 x 1/2	1
228	010 658	BEARING, thrust - oil impregnate 5/8 ID x 1-1/4 OD x 1/8	1
229	601 927	SCREW, cap - steel hex hd 1/4-20 x 3/4	4
230	602 207	WASHER, lock - steel split 1/4	4
231	602 241	WASHER, flat - steel SAE 1/4	8
232	010 313	PIN, cotter - hair .072 x 1-7/16	1
233	056 152	COVER, rear	1
234	056 151	COVER, front	1
235	057 300	HOUSING ASSEMBLY (consisting of)	1
236	056 051	. BEARING, sleeve - cylinder oil impregnate 5/8 x 7/8 x 2	1
237	058 168	. HOUSING, drive - wire bushing (consisting of)	1
238	058 112	. . BUSHING, flanged - nylon 5/16 ID x 7/16 OD x 3/4	2
239	010 224	. . PIN, spring 3/16 x 1	2
240	056 306	. . FASTENER, pinned	2
241	602 243	. . WASHER, flat - steel std 3/8	2
242	604 590	. . NUT, steel - wing 3/8-16	2
243	010 910	. . WASHER, flat - steel SAE 3/8	2
244	010 232	. . SPRING, compression - bottom	2
245	010 231	. . SPRING, compression - top	2
246	056 308	. . SHAFT, drive	4
247	601 925	. . SCREW, cap - steel hex hd 1/4-20 x 1/2	4
248	604 624	. . SCREW, machine - steel fillister hd 1/4-20 x 1/2	3
249	010 312	. . PIN, machine 3/8 x 2-1/4	1
250	056 045	. . KEY, 3/16 x 3/16 x 1	1
251	058 881	DRIVE SHAFT & GEAR (consisting of)	1
252	605 789	. . SCREW, set - steel socket hd 10-24 x 1/4	1
253	058 876	. . GEAR, spur - nylon 15 tooth	1
254	056 256	. . SHAFT, drive	1
255	028 996	. . KEY, woodruff 3/16 x 5/8	1

BE SURE TO PROVIDE STOCK, MODEL, AND SERIAL NUMBERS WHEN ORDERING REPLACEMENT PARTS.



TB-056 276A

Figure E — Kit, Drive Gear & Guide Tube For Single Piece V & U Groove Gear/Drive Rolls.



TB-058 785

Figure F — Kit, Drive Gear & Guide Tube For Split V-Knurled Drive Rolls And Gear.

Wire Diameter And Type			Kit No.	*Gear Drive Roll		Guide Part Nos.	
Fraction	Decimal	Metric		Part No.	Type	Inlet	Intermediate
.030" hard	.030	.8MM	057 707	057 685	V-Groove	056 192	056 206
.035" hard	.035	.9MM	057 708	057 686	V-Groove	056 192	056 206
.045" hard	.045	1.2MM	057 709	057 688	V-Groove	056 193	056 207
.052" hard	.052	1.3MM	057 710	057 689	V-Groove	056 193	056 207
1/16" hard	.062	1.6MM	057 711	057 690	V-Groove	056 195	056 209
.045" hard & cored	.045	1.2MM	057 712	057 696	U-Groove	056 193	056 207
1/16" hard & cored	.062	1.6MM	057 713	057 697	U-Groove	056 195	056 209
5/64" hard & cored	.078	2.0MM	057 714	057 698	U-Groove	056 195	056 209
3/32" hard & cored	.093	2.4MM	057 715	057 699	U-Groove	056 196	056 210
7/64" hard & cored	.109	2.8MM	057 716	057 700	U-Groove	056 196	056 210
1/8" hard & cored	.125	3.2MM	057 717	057 701	U-Groove	056 197	056 211

*Four (4) gear drive rolls required.

Figure E – Kits, Drive Gear & Guide Tube To Change From One Wire Size To Another For Use With Single-Piece V Or U Groove Gear/Drive Roll.

Wire Diameter & Type			Kit No.	Gear W/Bearing	Bearing	*Roll, Drive		Screw, Fillister Hd. 10-32 x 3/4	Guide Part Nos.	
Fraction	Decimal	Metric				Part No.	Type		Inlet	Intermediate
1/16" cored	.062	1.6MM	058 785	056 305	056 050	056 771	V-Knurled	604 607	056 195	056 209
5/64" cored	.078	2.0MM	058 786	056 305	056 050	056 773	V-Knurled	604 607	056 195	056 209
3/32" cored	.093	2.4MM	058 787	056 305	056 050	056 774	V-Knurled	604 607	056 196	056 210
7/64" cored	.109	2.8MM	058 788	056 305	056 050	056 775	V-Knurled	604 607	056 196	056 210
1/8" cored	.125	3.2MM	058 789	056 305	056 050	056 776	V-Knurled	604 607	056 197	056 211

*Eight (8) drive rolls required.

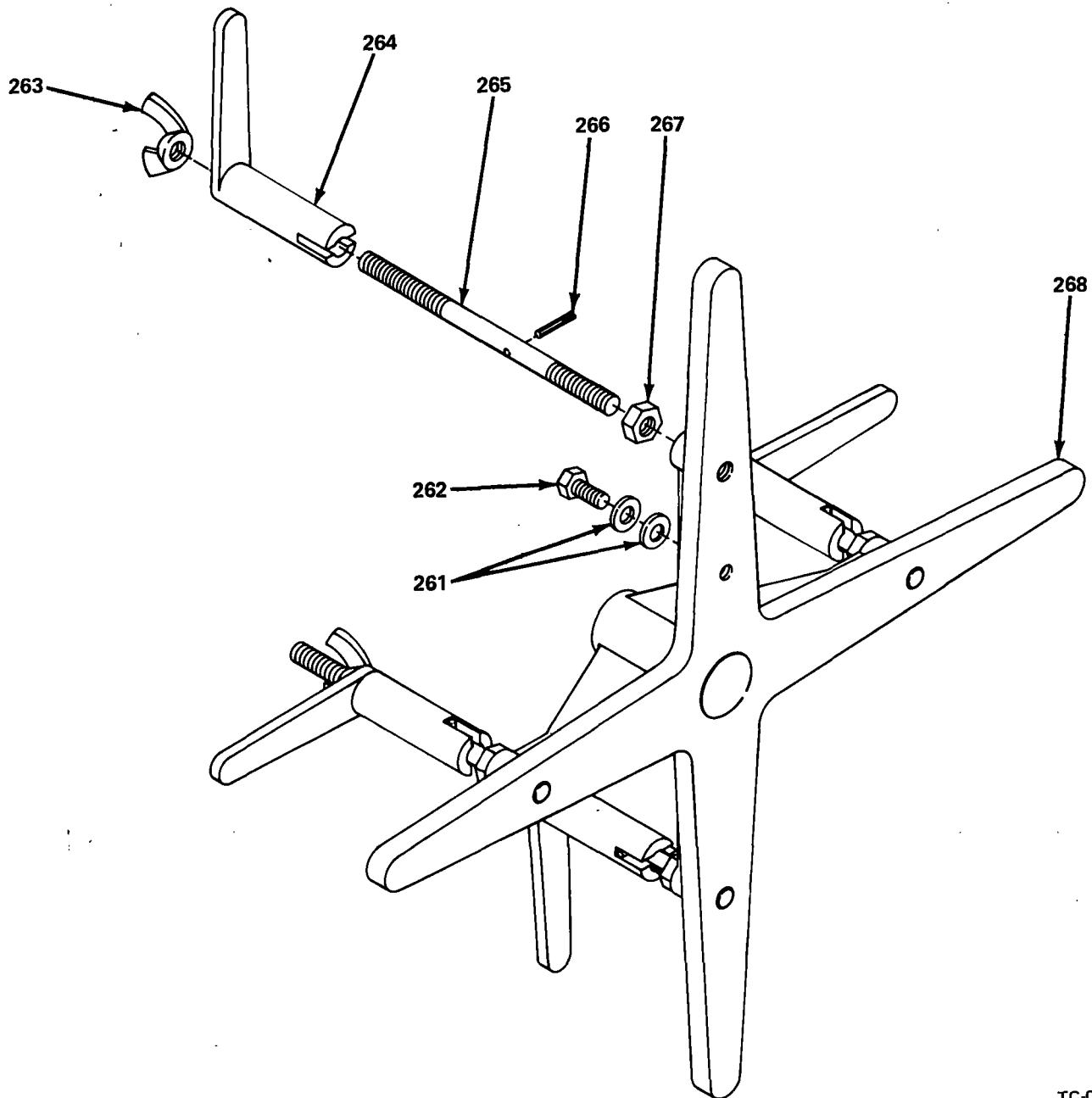
Figure F – Kits, Drive Gear & Guide Tube To Change From Single Piece V Or U Groove Gear/Drive Rolls To Split V-Knurled Drive Rolls & Gear.

Wire Diameter & Type			Kit No.	*Roll, Drive		Guide Part Nos.	
Fraction	Decimal	Metric		Part No.	Type	Inlet	Intermediate
1/16" cored	.062	1.6MM	058 756	056 771	V-Knurled	056 195	056 209
5/64" cored	.078	2.0MM	058 758	056 773	V-Knurled	056 195	056 209
3/32" cored	.093	2.4MM	058 760	056 774	V-Knurled	056 196	056 210
7/64" cored	.109	2.8MM	058 759	056 775	V-Knurled	056 196	056 210
1/8" cored	.125	3.2MM	058 757	056 776	V-Knurled	056 197	056 211

*Eight (8) drive rolls required.

Kits, Drive Roll & Guide Tube To Change From One Wire Size To Another For Use With Split V-Knurled Drive Rolls.

Item No.	Factory Part No.	Description	Quantity
Figure G	056 416	Reel, Wire (See Fig. A Page 2 Item 47)	
261	010 910	WASHER, flat - steel SAE 3/8	2
262	601 964	SCREW, cap - steel hex hd 3/8-16 x 3/4	1
263	604 051	NUT, steel - wing 1/2-13	4
264	056 312	FINGER, reel	4
265	056 313	STUD, steel 1/2-13 x 7 inches	4
266	010 224	PIN, spring 3/16 x 1 inch	4
267	601 880	NUT, steel - hex jam 1/2-13	4
268	056 314	REEL	1



TC-056 416

Figure G – Reel, Wire

BE SURE TO PROVIDE STOCK, MODEL AND SERIAL NUMBERS WHEN ORDERING REPLACEMENT PARTS.

